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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,339	10/12/2001	Sunghyun Choi	US 010256	9236
24737	7590	12/23/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			REID, CHERYL M	
			ART UNIT	PAPER NUMBER
			2142	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,339

Applicant(s)

CHOI ET AL.

Examiner

Cheryl M. Reid

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 have been examined.

Response to Arguments

2. Applicant's argument regarding the compatibility of Marcoccia and Cerwall has been fully considered but is not persuasive. Although Marcoccia and Cerwall use different protocols, they are both of the same field of endeavor. Both inventions relate to radio communication systems that allocate channels based on channel quality.
3. In regards to Applicant's arguments that Cervall only teaches of "deciding which channel to camp on" but the decision is made for a single mobile station and not a plurality of stations has been considered but is not persuasive. Examiner contends that since Cervall's invention is capable of making the decision for a single mobile station, then it has the capability of making the decision for a plurality of mobile stations. Although not relied upon for rejection of the instant application, Examiner refers Applicant to Lindskog et al (US 6597680) which teaches of "switching by each of the plurality of mobile stations to a different(new) channel, col 16, lines 25-30).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,2-6, 7,8- 13, 14-16, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cerwall et al (US 6868277) herein after Cerwall, and further in view of Marcoccia et al (US 6169761) herein after Marcoccia.

3. In regards to claim 1, Cerwall teaches of determining whether a new channel to be used by all of the plurality of STAs is needed (Col 5, lines 4-5); (b) measuring a channel quality of a plurality of frequency channels by an STA of the plural STAs (Col 3, lines 17-20); (d) selecting one of said candidate channels based on said channel quality report for use in communication between said AP and the plural STAs (Col 9, lines 1-15). (c) Cerwall teaches about reporting from said STAs to said AP of a list of candidate channels including a received signal strength indication (RSSI) (Col 5, lines 35-47, Fig 2) but does not explicitly teach of report also including a Clear Channel Assessment (CCA) busy periods of all channels measured by said plurality of STAs. Marcoccia teaches about using a Clear Channel Assessment as one of the deciding criteria in deciding if one should choose a particular channel (Col 3, lines 25-40). Clear Channel Assessment is part of the IEEE 802.11 standard and is used to decide if a channel is free. It is an objective of Cerwall to select (allocate) channels to users. It would have been obvious to one of ordinary skill in the art to incorporate CCA parameter into the report (i.e. list of candidate channels) because it is well known in the arts according to IEEE standards, that one has to know the status of a channel (i.e. busy/free) in order to decide if one can allocate it for another connection.

4. In regards to claim 7, the discussion of claim 1 applies to the limitations of claim 7 (a-c). In regards to the additional limitations of claim 7 (d-e), Cerwall teaches of

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determining whether a signal from an adjacent BSS is received by an STA of said plural STAs (Col 9, lines 16-30); (e) if said adjacent BSS signal or an interfering signal of unknown type is detected, selecting a new channel based on the least interference to said channel quality or meeting other regulatory requirement for use in communication between said AP and said plural STAs according to the value of said RSSI (Col 6 lines 45-60).

5. In regards to claim 9, the discussion of claim 7 applies to the limitations of claim 9 (a-e). In regards to the additional limitations of claim 7, Cerwall teaches of switching STA to said new channel (col 2, lines 15-30) but does not explicitly teach of switching a plurality of channels, however Examiner contends that since the invention is capable of switching channel of one mobile station, it is capable of changing the channel of a plurality of mobile stations.

6. In regards to claim 13 and 17, the discussion of claim 1 applies to the limitations of claim 13 and 17(a-c). In regards to the additional limitations of claim 13 and 17 (d-e), Cerwall teaches of measuring an interference level (Col 9, lines 15-30) and selecting said new channel representing the least interference signal level based on said measured RSSI, CCA, (Col 2, lines 35-45, Col 6 lines 45-60) but does not explicitly teach of caused by another communication system based on a periodic presence of on/off busy CCA signals ; Marcoccia teaches on this aspect (Col 3, lines 25-40). One of ordinary skill in the art at the time of invention would have been motivated to make the above-mentioned modifications for the reasons discussed above in claim 1.

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7. In regards to claims 2, Cerwall teaches of channel signal quality further includes an interference signal level caused by another communication device (Col 9, lines 15-30) but does not explicitly teach of interference signal level is based on a periodic presence of on/off busy CCA signals. Marcoccia teaches on this aspect (Col 3, lines 25-40). One of ordinary skill in the art at the time of invention would have been motivated for the same reasons discussed above in claim 13.

8. In regards to claim 3 and 4, Cerwall teaches of selecting one of said candidate channels is based on the least interference to said channel....and other regulatory requirements (Fig 2, Fig 4).

9. In regards to claim 5-6, 8, 14-15, and 18-19 Cerwall teaches of the step of transmitting the selected channel informationand plurality of STAs to said new channel (Col 13, lines 45-65, Fig 4c item 450).

10. In regards to claim 10 and 20, Cerwall teaches of new channelpredetermined threshold (Fig 4c).

11. In regards to claims 11 - 12 and 16 Cerwall does not explicitly teach ofbased on a periodic presence....Marcoccia teaches on these aspects (Col 3, lines 25-40). One of ordinary skill in the art at the time of invention would have been motivated for the same reasons as discussed in claim 13.

12. Claims 21, 22 -24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cerwall and Marcoccia as applied to claim 1 and 7 above, and further in view of Kobylinski et al herein after Kobylinski (US 6694138).

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13. In regards to claim 21, both Cerwall and Marcoccia did not explicitly teach of measure an interference level caused by another communication system based on a periodic absence of any 802.11 frame reception for a predetermined time period.

Kobylinski teaches on these aspects (Col 4, lines 5-15). One of ordinary skill in the art at the time of invention would have been motivated for the reasons discussed in Claim 22.

14. In regards to claim 22, the discussion of claim 7 applies to the limitations of claim 22 (1-3, 5). In regards to the additional limitation of claim 22 (4), both Cerwall and Marcoccia did not explicitly teach of measure an interference level caused by another communication system based on a periodic absence of any 802.11 frame reception for a predetermined time period. Kobylinski teaches on these aspects (Col 4, lines 5-15). Kobylinski invention relates to improving mobile system handoff (Col 1, lines 14-15). It would have been obvious to one of ordinary skill in the arts at the time of invention to incorporate Kobylinski's teaching into Cerwall's invention because this modification would give

give him a more systematic method for measuring interference (i.e. measuring interference at a specific time). This would allow Cerwall's invention to accomplish his objective of obtaining the best overall performance of the cellular system as discussed by Cerwall (Col 5, lines 28-29). It is for this reason that one of ordinary skill in the art at the time of invention would have been motivated to make the above-mentioned modifications.

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15. In regards to claim 23 and 24 , Cerwall teaches of of the step of transmitting the selected channel informationand plurality of STAs to said new channel (Col 13, lines 45-65, Fig 4c item 450).

16. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cerwall et al (US 6868277) herein after Cerwall, and further in view of Marcoccia et al (US 6169761) herein after Marcoccia as applied above to claim 1, and further in view of Chuang (Justin C. Chuang, " Performance Issues and Algorithms for Dynamic Channel Assignment").

17. In regards to claim 25, neither Cerwall nor Marcoccia explicitly teach of .. notifying using .. beacon. In an analogous art, Chuang teaches of the above limitations (page 956, 2nd column). It would have been obvious to one of ordinary skill in the arts at the time of invention to incorporate the above teachings because the inventions are analogous art (i.e. relates to the facilitation of mobile communication). One of ordinary skill in the arts would have been motivated because the above modification would result in a more reliable communication systems.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl M. Reid whose telephone number is 571 272 3903. The examiner can normally be reached on Mon- Fri (7-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmr

Scater Prieto
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PRIMARY EXAMINER